

JAN 28 2004

TM
ARK OFFICE 60101

SEQUENCE LISTING

<110> NAGY et al.

<120> HUMAN POLYPEPTIDES CAUSING OR LEADING TO THE KILLING OF CELLS INCLUDING LYMPHOID TUMOR CELLS

<130> GPCG-P01-003

<140> 10/001934

<141> 2001-11-15

<150> PCT/US01/15625

<151> 2001-05-14

<150> EP 00 11 0065.0

<151> 2000-05-12

<150> US 60/238,762

<151> 2000-10-06

<160> 62

<170> PatentIn version 3.2

<210> 1

<211> 10

<212> PRT

<213> artificial sequence

<220>

<221> VHconCDR3

<222> (1)..(10)

<223> "Xaa" represents any amino acid residue

<400> 1

Xaa Xaa Xaa Xaa Arg Gly Xaa Phe Asp Xaa
1 5 10

<210> 2

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> VLconCDR3

<222> (1)..(8)

<223> "Xaa" represents any amino acid residue

<400> 2

Gln Ser Tyr Asp Xaa Xaa Xaa Xaa

1 5

<210> 3
<211> 10
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-VH-CDR3,MS-GPC8-1-VH-CDR3,MS-GPC8-6-VH-CDR3, MS-GPC8-9-VH-
CDR3,MS-GPC8-10-VH-CDR3,MS-GPC8-17-VH-CDR3, MS-GPC8-18-VH-CDR3, MS-GPC8-27-VH-
CDR3, MS-GPC8-6-2-VH-CDR3, MS-GPC8-6-13-VH-CDR3, MS-GPC8-6-19-VH-CDR3, MS-GPC8-
6-27-VH-CDR3, MS-GPC8-6-45-VH-CDR3, MS-GPC8-10-57-VH-CDR3, MS-GPC8-27-7-VH-CDR3,
MS-GPC8-27-10-VH-CDR3, MS-GPC8-27-41-VH-CDR3, MS-GPC8-6-47-VH-CDR3
<222> (1)..(10)

<400> 3

Ser Pro Arg Tyr Arg Gly Ala Phe Asp Tyr
1 5 10

<210> 4
<211> 8
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-10-VL-CDR3,MS-GPC8-10-57-VL-CDR3
<222> (1)..(8)

<400> 4
Gln Ser Tyr Asp Leu Ile Arg His
1 5

<210> 5
<211> 8
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-27-VL-CDR3,MS-GPC8-27-7-VL-CDR3,MS-GPC8-27-10-VL-CDR3,MS-GPC8-27-
41-VL-CDR3
<222> (1)..(8)

<400> 5
Gln Ser Tyr Asp Met Asn Val His
1 5

<210> 6
<211> 13
<212> PRT
<213> artificial sequence

<220>

<221> VLconCDR1
<222> (1)..(13)

<220>
<221>
<222> (4)..(5)
<223> "Xaa" represents any amino acid residue

<220>
<221>
<222> (9)..(9)
<223> "Xaa" represents any amino acid residue

<220>
<221>
<222> (13)..(13)
<223> "Xaa" represents any amino acid residue

<400> 6
Ser Gly Ser Xaa Xaa Asn Ile Gly Xaa Asn Tyr Val Xaa
1 5 10

<210> 7
<211> 13
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC-8-10-57-VL-CDR1, MS-GPC-8-27-41-VL-CDR1
<222> (1)..(13)

<400> 7
Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn Tyr Val Gln
1 5 10

<210> 8
<211> 8
<212> PRT
<213> artificial sequence

<220>
<221> Streptaq
<222> (1)..(8)

<400> 8
Trp Ser His Pro Gln Phe Glu Lys
1 5

<210> 9
<211> 4
<212> PRT
<213> artificial sequence

<220>

```

<221> FLAG
<222> (1)..(4)

<400> 9

Asp Tyr Lys Asp
1

<210> 10
<211> 17
<212> DNA
<213> artificial sequence

<220>
<221> PrimerCRT5
<222> (1)..(17)

<400> 10
gtggtggttc cgatatac                                         17

<210> 11
<211> 44
<212> DNA
<213> artificial sequence

<220>
<221> PrimerCRT6
<222> (1)..(44)

<400> 11
agcgtaacac tcggtgccgc tttcggttgg ccaagaacgg gtta                                         44

<210> 12
<211> 13
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC1-VL-CDR1,MS-GPC8-VL-CDR1,MS-GPC10-VL-CDR1,MS-GPC8-1-VL-CDR1,MS-
      GPC8-6-VL-CDR1,MS-GPC8-9-VL-CDR1,MS-GPC8-10-VL-CDR1, MS-GPC8-17-VL-CDR1,MS-GPC8-
      18-VL-CDR1,MS-GPC8-27-VL-CDR1,
<222> (1)..(13)

<400> 12
Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn Tyr Val Ser
1                      5                         10

<210> 13
<211> 13
<212> PRT
<213> artificial sequence

<220>

```

<221> MS-GPC8-6-2-VL-CDR1
<222> (1)..(13)

<400> 13
Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn Tyr Val His
1 5 10

<210> 14
<211> 13
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-19-VL-CDR1
<222> (1)..(13)

<400> 14
Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn Tyr Val Ala
1 5 10

<210> 15
<211> 13
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-27-VL-CDR1
<222> (1)..(13)

<400> 15
Ser Gly Ser Asp Ser Asn Ile Gly Ala Asn Tyr Val Thr
1 5 10

<210> 16
<211> 13
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-45-VL-CDR1
<222> (1)..(13)

<400> 16
Ser Gly Ser Glu Pro Asn Ile Gly Ser Asn Tyr Val Phe
1 5 10

<210> 17
<211> 13
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-27-7-VL-CDR1

<222> (1)..(13)

<400> 17
Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn Tyr Val Gly
1 5 10

<210> 18
<211> 13
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-27-10-VL-CDR1
<222> (1)..(13)

<400> 18
Ser Gly Ser Glu Ser Asn Ile Gly Ala Asn Tyr Val Asn
1 5 10

<210> 19
<211> 10
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC1-VH-CDR3
<222> (1)..(10)

<400> 19
Gln Tyr Gly His Arg Gly Gly Phe Asp His
1 5 10

<210> 20
<211> 9
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC6-VH-CDR3
<222> (1)..(9)

<400> 20
Gly Tyr Gly Arg Tyr Ser Pro Asp Leu
1 5

<210> 21
<211> 8
<212> PRT
<213> artificial sequence

<220>

<221> MS-GPC6-VL-CDR3
<222> (1)..(8)

<400> 21

Gln Gln Tyr Ser Asn Leu Pro Phe
1 5

<210> 22
<211> 8
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-VL-CDR3
<222> (1)..(8)

<400> 22

Gln Ser Tyr Asp Met Pro Gln Ala
1 5

<210> 23
<211> 8
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC10-VL-CDR3
<222> (1)..(8)

<400> 23

Gln Ser Tyr Asp Leu Thr Met Gly
1 5

<210> 24
<211> 8
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-1-VL-CDR3
<222> (1)..(8)

<400> 24

Gln Ser Tyr Asp Phe Ser His Tyr
1 5

<210> 25
<211> 8
<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-9-VL-CDR3

<222> (1)..(8)

<400> 25

Gln Ser Tyr Asp Ile Gln Leu His
1 5

<210> 26

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-17-VL-CDR3

<222> (1)..(8)

<400> 26

Gln Ser Tyr Asp Phe Ser Val Tyr
1 5

<210> 27

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-18-VL-CDR3

<222> (1)..(8)

<400> 27

Gln Ser Tyr Asp Phe Ser Ile Tyr
1 5

<210> 28

<211> 109

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-1-VL

<222> (1)..(109)

<400> 28

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Phe Ser His
85 90 95

Tyr Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 29

<211> 13

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-6-13-VL-CDR1

<222> (1)..(13)

<400> 29

Ser Gly Ser Glu Ser Asn Ile Gly Ala Asn Tyr Val Thr
1 5 10

<210> 30

<211> 13

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-6-47-VL-CDR1

<222> (1)..(13)

<400> 30

Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn Tyr Val Ser
1 5 10

<210> 31

<211> 109

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-9-VL

<222> (1)..(109)

<400> 31

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln

1 5 10 15
Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30
Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45
Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ile Gln Leu
85 90 95
His Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 32
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-18-VL
<222> (1)..(109)

<400> 32

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Phe Ser Ile
85 90 95

Tyr Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 33
<211> 3548
<212> DNA
<213> artificial sequence

```

<220>
<221> pMORPH13_scFv
<222> (1)..(3548)

<400> 33
agagcatgct taggagaaaa taaaatgaaa caaagcacta ttgcactggc actcttaccg      60
ttgctttca cccctgttac caaagccgac tacaaagatg aagtgcatt ggttcagtct      120
ggcgcggaag tgaaaaaacc gggcagcagc gtgaaagtga gctgcaaagc ctccggaggc      180
acttttagca gctatgcgt tagctgggtg cgccaagccc ctgggcaggg tctcgagtgg      240
atgggcggca ttattccgtat ttttggcactc gcgaactacg cgcagaagtt tcagggccgg      300
gtgaccatta ccgcggatga aagcaccagc accgcgtata tggaactgag cagcctgcgt      360
agcgaagata cggccgtgta ttattgcgcg cgttattatg atcgtatgta taatatggat      420
tattggggcc aaggcacccct ggtgacgggt agctcagcgg gtggcggttc tggcggcggt      480
gggagcggtg gcggtggttc tggcggtggt ggttccgata tcgaactgac ccagccgcct      540
tcagtgagcg ttgcaccagg tcagaccgcg cgtatctcg ttagcggcga tgcgtggc      600
gataaaatacg cgagctggta ccagcagaaa cccgggcagg cgccagttct ggtgatttat      660
gatgattctg accgtccctc aggcatcccc gaacgcttta gcggatccaa cagcggcaac      720
accgcgaccc tgaccattag cggcactcag gcggaagacg aagcggatttta ttattgccag      780
agctatgacg ctcatatgcg tcctgtgtt ggcggcggca cgaagtttac cgttttggc      840
caggaattcg agcagaagct gatctctgag gaggatctga actagggtgg tggctctgg      900
tccggtgatt ttgattatga aaagatggca aacgctaata agggggctat gaccgaaaat      960
gccgatgaaa acgcgtaca gtctgacgct aaaggcaaac ttgattctgt cgctactgat      1020
tacggtgctg ctatcgatgg tttcattggt gacgttccg gccttgctaa tggtaatgg      1080
gctactggtg attttgctgg ctctaattcc caaatggctc aagtcggtga cggtgataat      1140
tcacctttaa tgaataattt ccgtcaatat ttaccttccc tccctcaatc gggtgaatgt      1200
ccccccttttgc tctttggcgc tggtaaacca tatgaatttt ctattgatttgc tgacaaaata      1260
aacttattcc gtggtgtctt tgcgtttctt ttatatgttg ccacctttat gtatgtattt      1320
tctacgttttgc ctaacataact gcgtataaaag gagtcttgat aagcttgacc tgtgaagtga      1380
aaaatggcgc agattgtgcg acatttttt tgtctgccgt ttaatgaaat tgtaaacgtt      1440
aatattttgt taaaattcgc gttaaatttt tggtaaatca gctcattttt taaccaatag      1500
gccgaaatcg gcaaaatccc ttataaatca aaagaataga ccgagatagg gttgagttt      1560

```

gttccagttt ggaacaagag tccactatta aagaacgtgg actccaacgt caaaggcgaa	1620
aaaaccgtct atcagggcgaa tggcccacta cgagaaccat caccctaatac aagtttttg	1680
gggtcgaggt gccgttaaagc actaaatcg aaccctaaag ggagcccccg atttagagct	1740
tgacgggaa agccggcgaa cgtggcgaga aaggaaggaa agaaagcgaa aggagcgggc	1800
gctagggcgc tggcaagtgt agcggtcacg ctgcgcgtaa ccaccacacc cgccgcgcgtt	1860
aatgcgccgc tacagggcgc gtgctagcca tgtgagcaaa aggccagcaa aaggccagga	1920
accgtaaaaaa ggccgcgttg ctggcggttt tccataggct ccgccccct gacgagcatc	1980
acaaaaatcg acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg	2040
cgtttcccccc tggaaagctcc ctcgtgcgc tccctgttcc gaccctgccc cttaccggat	2100
acctgtccgc ctttctccct tcgggaagcg tggcgctttc tcatacgctca cgctgttaggt	2160
atctcagttc ggtgttaggtc gttcgctcca agctgggctg tgtgcacgaa ccccccgttc	2220
agtccgaccg ctgcgcctta tccggtaact atcgtcttga gtccaaacccg gtaagacacg	2280
acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg	2340
gtgctacaga gttcttgaag tggggccta actacggcta cactagaaga acagtatttg	2400
gtatctgcgc tctgctgttag ccagttaccc tcggaaaaag agttggtagc tcttgatccg	2460
gcaaacaac acccgctggt agcggtggtt ttttgggttca aggcagcag attacgcgc	2520
aaaaaaaaagg atctcaagaa gatccttga tctttctac ggggtctgac gctcagtggaa	2580
acgaaaactc acgttaaggg atttggtca gatctagcac caggcggtta agggcaccaa	2640
taactgcctt aaaaaaatta cgccccgccc tgccactcat cgcaactgtt ttgtattca	2700
ttaagcattc tgccgacatg gaagccatca caaacggcat gatgaacctg aatgcgcgc	2760
ggcatcagca cttgtcgcc ttgcgtataa tatttggccca tagtggaaac gggggcgaag	2820
aagttgtcca tattggctac gtttaatca aaactggta aactcacccg gggattggct	2880
gagacgaaaa acatattctc aataaaccct ttagggaaat aggccaggtt ttcaccgtaa	2940
cacgccacat cttgcgaata tatgtgtaga aactgccggaa atcgtcgat gtattcactc	3000
cagagcgatg aaaacgtttc agttgtca tggaaaacgg tgtaacaagg gtgaacacta	3060
tcccatatca ccagctcacc gtcttcatt gccatacgga actccgggtg agcattcatc	3120
aggcgggcaa gaatgtgaat aaaggccgga taaaacttgt gcttattttt cttaacggtc	3180
tttaaaaagg ccgtaatatac cagctgaacg gtctggttat aggtacattg agcaactgac	3240

tgaaatgcct	caaaatgttc	tttacgatgc	cattggata	tatcaacggt	ggtatatcca	3300
gtgattttt	tctccatttt	agcttcctta	gctcctgaaa	atctcgataa	ctcaaaaaat	3360
acgcccggta	gtgatcttat	ttcattatgg	tgaaagttgg	aacctcaccc	gacgtcta	3420
tgaggttagc	tcactcatta	ggcacccca	gcttacact	ttatgcttcc	ggctcgtatg	3480
tttgtggaa	ttgtgagcgg	ataacaattt	cacacaggaa	acagctatga	ccatgattac	3540
gaatttct						3548

<210> 34
 <211> 4410
 <212> DNA
 <213> artificial sequence

<220>
 <221> pMx7_FS_5D2
 <222> (1)..(4410)

<400> 34	tctagagcat	gcgttaggaga	aaataaaatg	aaacaaagca	ctattgcact	ggcactctta	60
	ccgttgctct	tcacccctgt	taccaaagcc	gactacaaag	atgaagtgc	attggtgaa	120
	agcggcggcg	gcctggtgca	accggcggc	agcctgcgtc	tgagctgcgc	ggcctccgga	180
	tttacctta	gcagctatgc	gatgagctgg	gtgcgccaag	cccctggaa	gggtctcgag	240
	tgggtgagcg	cgattagcgg	tagcggcggc	agcacctatt	atgcggatag	cgtgaaaggc	300
	cgttttacca	tttacgtga	taattcgaaa	aacacctgt	atctgcaa	taat gaacagcctg	360
	cgtgcggaa	atacggccgt	gtattattgc	gcgcgtgtt	agaagcat	ttctcgtaag	420
	aattggttt	attattgggg	ccaaggcacc	ctggtgacgg	ttagctcagc	gggtggcggt	480
	tctggcggcg	gtgggagcgg	tggcggtgg	tctggcggt	gtggttccga	tatcgatg	540
	acccagagcc	cactgagcct	gccagtgact	ccggcgagc	ctgcgagcat	tagctgcaga	600
	agcagccaaa	gcctgctgca	tagcaacggc	tataactatc	tggattggta	ccttcaaaaa	660
	ccaggtcaaa	gcccgcagct	attaatttat	ctgggcagca	accgtgccag	tgggtccccg	720
	gatcgttta	gcggctctgg	atccggcacc	gatttaccc	tgaaaattag	ccgtgtggaa	780
	gctgaagacg	tggcggtgta	ttattgccag	cagcattata	ccacccggc	gaccttggc	840
	cagggtacga	aagttgaaat	taaacgtacg	gaattcgact	ataaaagatga	cgatgacaaa	900
	ggcgccgcgt	ggagccaccc	gcagttgaa	aatgataag	cttgacctgt	gaagtgaaaa	960
	atggcgcaga	ttgtgcgaca	tttttttgt	ctgcccgttta	attaaagggg	ggggggggcc	1020

gcaaaaggcc	agcaaaaggc	caggaaccgt	aaaaaggccg	cgttgctggc	gttttccat	2820
aggctccgcc	cccctgacga	gcatcacaaa	aatcgacgct	caagttagag	gtggcgaaac	2880
ccgacaggac	tataaagata	ccaggcggtt	ccccctggaa	gctccctcg	gcgctctcct	2940
gttccgaccc	tgccgcttac	cggatacctg	tccgccttc	tcccttcggg	aagcgtggcg	3000
ctttctcata	gctcacgctg	taggtatctc	agttcggtgt	aggtcgttcg	ctccaagctg	3060
ggctgtgtgc	acgaaccccc	cgttcagccc	gaccgctg	ccttatccgg	taactatcgt	3120
ctttagtcca	acccggtaag	acacgactta	tcgcccactgg	cagcagccac	tggtaacagg	3180
attagcagag	cgaggtatgt	aggcggtgct	acagagttct	tgaagtggtg	gcctaactac	3240
ggctacacta	gaagaacagt	atttggtatac	tgcgcctgc	tgttagccagt	taccttcgga	3300
aaaagagttg	gtagctcttg	atccggcaaa	caaaccaccc	ctggtagccgg	tggttttttt	3360
gtttgcaagc	agcagattac	gcmcagaaaa	aaaggatctc	aagaagatcc	tttgcatttt	3420
tctacggggt	ctgacgctca	gtggAACGAA	aactcacgtt	aagggatttt	ggtagatct	3480
agcaccaggc	gtttaaggc	accaataact	gcctaaaaaa	aattacgccc	cgccctgcca	3540
ctcatcgca	tactgttgta	attcattaag	cattotgccc	acatggaaac	catcacaaac	3600
ggcatgatga	acctgaatcg	ccagcggcat	cagcaccttg	tcgccttgc	tataatattt	3660
gcccatatgt	aaaacggggg	cgaagaagtt	gtccatattt	gctacgttta	aatcaaaaact	3720
ggtgaaactc	acccaggat	tggctgagac	aaaaaacata	ttctcaataa	accctttagg	3780
gaaataggcc	aggtttcac	cgtaacacgc	cacatcttgc	gaatatatgt	gtagaaactg	3840
ccggaaatcg	tcgtggatt	cactccagag	cgatgaaaac	gtttcagttt	gctcatggaa	3900
aacggtgtaa	caagggtgaa	cactatccc	tatcaccaggc	tcaccgtt	tcattgccat	3960
acggaactcc	gggtgagcat	tcatcaggcg	ggcaagaatg	tgaataaagg	ccggataaaa	4020
cttgcgttta	ttttcttta	cggctttaa	aaaggccgt	atatccagct	gaacggtctg	4080
gttataggta	cattgagcaa	ctgactgaaa	tgcctcaaaa	tgttcttac	gatgccattt	4140
ggatatatca	acggtggtat	atccagtat	tttttctcc	attttagctt	ccttagctcc	4200
tgaaaatctc	gataactcaa	aaaatacgcc	cggtagtgc	cttatttcat	tatggtaaaa	4260
gttggAACCT	cacccgacgt	ctaatgtgag	ttagctact	cattaggcac	cccaggctt	4320
acactttatg	cttccggctc	gtatgtgt	tggaaattgt	agcggataac	aatttcacac	4380
aggaaacagc	tatgaccatg	attacgaatt				4410

```

<210> 35
<211> 5020
<212> DNA
<213> artificial sequence

<220>
<221> pMx9_Fab_GPC8
<222> (1)..(5020)

<400> 35
atcgtgctga cccagccgcc ttcagttagt ggcgcaccag gtcagcgtgt gaccatctcg      60
tgtagcggca gcagcagcaa cattggcagc aactatgtga gctggtagcca gcagttggccc      120
gggacggcgc cgaaactgct gatttatgtat aacaaccaggc gtccctcagg cgtgccggat      180
cgtttagcg gatccaaaag cggcaccaggc gcgagccttg cgattacggg cctgcaaagc      240
gaagacgaag cgattattttt ttgcccagagc tatgacatgc ctcaggctgt gtttggcggc      300
ggcacgaagt ttaaccgttc ttggccagcc gaaagccgca ccgagtgtga cgctgtttcc      360
gccgagcagc gaagaattgc aggcaacaa agcgaccctg gtgtgcctga ttagcgactt      420
ttatccggga gccgtgacag tggcctggaa ggcagatagc agccccgtca aggccggagt      480
ggagaccacc acaccctcca aacaaagcaa caacaagtac gcggccagca gctatctgag      540
cctgacgcct gagcagtggc agtcccacag aagctacaggc tgccagggtca cgcatgaggg      600
gagcaccgtg gaaaaaaccg ttgcggccac tgaggcctga taagcatgctg taggagaaaa      660
taaaaatgaaa caaagcacta ttgcactggc actcttaccg ttgctcttca cccctgttac      720
caaagcccag gtgcaattga aagaaagcgg cccggccctg gtgaaaccga cccaaaccct      780
gaccctgacc tgtacccccc ccggatttag cctgtccacg tctggcgttg gcgtgggctg      840
gattcgccag ccgcctggga aagccctcgat gtggctggct ctgattgatt gggatgatgaa      900
taagtattat agcaccagcc tgaaaacgcg tctgaccatt agcaaagata cttcgaaaaaa      960
tcaggtggtg ctgactatga ccaacatggc cccgggtggat acggccaccc attattgcgc      1020
gcgttctcct cgttatcgtg gtgctttga ttattggggc caaggcaccc tggtgacggc      1080
tagctcagcg tcgaccaaag gtccaaacgcgt gtttccgctg gctccgagca gcaaaagcac      1140
cagcggcggc acggctgccc tgggctgcct ggttaaagat tatttccgg aaccagtcac      1200
cgtgagctgg aacagcgggg cgctgaccag cggcgtgcac acctttccgg cggtgctgca      1260
aagcagcggc ctgtatagcc tgagcagcgt tgtgaccgtg ccgagcagca gcttaggcac      1320
tcagacctat atttgcaacg tgaaccataa accgagcaac accaaagtgg ataaaaaaagt      1380

```

ggaaccgaaa	agcgaattcg	actataaaga	tgacgatgac	aaaggcgccc	cgtggagcca	1440
cccgagttt	aaaaaatgat	aagcttgacc	tgtgaagtga	aaaatggcgcc	agattgtgcg	1500
acatttttt	tgtctgccgt	ttaattaaag	gggggggggg	gccggcctgg	gggggggtgt	1560
acatgaaatt	gtaaacgtta	atattttgtt	aaaattcgcc	ttaaattttt	gttaaatcag	1620
ctcattttt	aaccaatagg	ccgaaatcg	caaaatccct	tataaatcaa	aagaatagac	1680
cgagataggg	ttgagtgtt	ttccagttt	gaacaagagt	ccactattaa	agaacgtgga	1740
ctccaacgtc	aaagggcgaa	aaaccgtcta	tcagggcgat	ggcccactac	gagaaccatc	1800
accctaatac	agtttttgg	ggtcgaggtg	ccgtaaagca	ctaaatcgga	accctaaagg	1860
gagccccgaa	tttagagctt	gacggggaaa	gccggcgaac	gtggcgagaa	aggaagggaa	1920
gaaagcgaaa	ggagcggcg	ctagggcgct	ggcaagtgt	gcggtcacgc	tgcgcgtaac	1980
caccacaccc	gccgcgccta	atgcgcgcgt	acagggcgcg	tgctagacta	gtgtttaaac	2040
cggaccgggg	gggggcttaa	gtgggctgca	aaacaaaaacg	gcctcctgtc	aggaagccgc	2100
tttatcggg	tagcctca	gccgccttc	cagtcggaa	acctgtcg	ccagctgc	2160
cagtgaatcg	gccaacgcgc	ggggagaggg	ggtttgcgt	ttgggagcca	gggtgggtt	2220
tctttcacc	agtgagacgg	gcaacagctg	attgcgccttc	accgcctggc	cctgagagag	2280
ttgcagcaag	cggccacgc	tggggccc	cagcaggcga	aaatcctgtt	tgttgtgg	2340
cagcggcgaa	atataacatg	agctgtcctc	ggtatcg	tatcccacta	ccgagatgtc	2400
cgcaccaacg	cgcagcccg	actcggtat	ggcacgcatt	gcgcgcagcg	ccatctgatc	2460
gttggcaacc	agcatcg	tgggaacgt	gcgccttc	agcatttgc	tgggggtt	2520
aaaacccggac	atggcaactcc	agtcgccttc	ccgttccgt	atcggctgaa	tttgattgc	2580
agttagat	ttatgccagc	cagccagacg	cagacgcgc	gagacagaac	ttaatgggc	2640
agctaacagc	gcgatttgct	ggtgcccaa	tgcgaccaga	tgctccacgc	ccagtcgcgt	2700
accgtcctca	tgggagaaaa	taatactgtt	gatgggtgtc	tggtcagaga	catcaagaaa	2760
taacgcccga	acattagtgc	aggcagcttc	cacagcaata	gcacgcgtt	catccagcgg	2820
atagttataa	atcagccac	tgacacgtt	cgcgagaaga	ttgtgcaccc	ccgccttaca	2880
ggcttcgacg	ccgcttcgtt	ctaccatcga	cacgaccacg	ctggcacc	gttgatcg	2940
gcgagattt	atcgccgcga	caatttgcga	cgccgcgtgc	agggccagac	tggaggtgg	3000
aacgccaatc	agcaacgact	gtttgcccgc	cagttgtt	gccacgcgt	taggaatgt	3060

attcagctcc	gccatcgccg	cttccacttt	ttcccgcgtt	ttcgcagaaa	cgtggctggc	3120
ctggttcacc	acgcgggaaa	cggtctgata	agagacacccg	gcatactctg	cgacatcgta	3180
taacgttact	ggttcacat	tcaccaccct	gaattgactc	tcttcgggc	gctatcatgc	3240
cataccgcga	aaggtttgc	gccattcgat	gctagccatg	tgagcaaaag	gccagcaaaa	3300
ggccaggaac	cgtaaaaagg	ccgcgttgc	ggcggtttc	cataggctcc	gccccctga	3360
cgagcatcac	aaaaatcgac	gctcaagtca	gaggtggcga	aacccgacag	gactataaag	3420
ataccaggcg	tttccccctg	gaagctccct	cgtgcgtct	cctgttccga	ccctgcccct	3480
tacccggatac	ctgtccgcct	tttcccttc	gggaagcgtg	gcgccttctc	atagctcag	3540
ctgttaggtat	ctcagttcgg	tgttaggtcgt	tcgctccaag	ctgggctgtg	tgcacgaacc	3600
ccccgttcag	cccgaccgct	gcgccttatac	cggtaactat	cgtcttgagt	ccaacccggt	3660
aagacacgac	ttatcgccac	tggcagcagc	cactggtaac	aggattagca	gagcggagta	3720
tgtaggcggt	gctacagagt	tcttgaagtg	gtggcctaac	tacggctaca	ctagaagaac	3780
agtatttggt	atctgcgctc	tgctgtagcc	agttaccttc	ggaaaaagag	ttggtagctc	3840
ttgatccggc	aaacaaacca	ccgctggtag	cggtggttt	tttggttgca	agcagcagat	3900
tacgcgcaga	aaaaaaggat	ctcaagaaga	tccttgatc	ttttctacgg	ggtctgacgc	3960
tcagtggAAC	aaaaactcac	gttaagggt	tttggtcaga	tctagcacca	ggcggttaag	4020
ggcaccaata	actgcctaa	aaaaattacg	ccccccctg	ccactcatcg	cagtactgtt	4080
gttaattcatt	aagcattctg	ccgacatgga	agccatcaca	aacggcatga	tgaacctgaa	4140
tcgcccAGCgg	catcagcacc	ttgtcgccct	gcgtataata	tttggccata	gtggaaacgg	4200
gggcgaagaa	gttgtccata	ttggctacgt	ttaaatcaaa	actggtgaaa	ctcacccagg	4260
gattggctga	gacgaaaaac	atattctcaa	taaacccttt	agggaaatag	gccaggttt	4320
caccgtaaca	cgccacatct	tgcaaatata	tgtgtagaaa	ctgcccggaaa	tcgtcgtggt	4380
attcactcca	gagcgatgaa	aacgtttcag	tttgctcatg	gaaaacggtg	taacaagggt	4440
gaacactatac	ccatatcacc	agtcaccgt	ctttcattgc	catacggAAC	tccgggtgag	4500
cattcatcag	gcgggcaaga	atgtgaataa	aggccggata	aaacttgc	ttatTTTCT	4560
ttacggtctt	taaaaaggcc	gtaatatcca	gctgaacgggt	ctgggtatag	gtacatttag	4620
caactgactg	aaatgcctca	aaatgttctt	tacgatgcca	ttgggatata	tcaacgggtgg	4680
tatATCCAGT	gattttttc	tccatTTAG	cttccttagc	tcctgaaaat	ctcgataact	4740
caaaaaatac	gcccggtagt	gatcttattt	cattatggtg	aaagttggaa	cctcaccggaa	4800

cgtctaatgt gagttagctc actcattagg caccccaggc tttacacttt atgcttccgg	4860
ctcgatgtt gtgtgaaatt gtgagcggat aacaattca cacaggaaac agctatgacc	4920
atgattacga atttcttagat aacgagggca aaaaatgaaa aagacagcta tcgcgattgc	4980
agtggcactg gctggtttcg ctaccgtagc gcaggccat	5020
<210> 36	
<211> 4145	
<212> DNA	
<213> artificial sequence	
<220>	
<221> pMORPH18_Fab_GPC8	
<222> (1)..(4145)	
<400> 36	
tcagataacg agggcaaaaa atgaaaaaga cagctatcgc gattgcagtgcactggctg	60
gttcgctac ctagcgcag gccgatatcg tgctgaccca gccgccttca gtgagtggcg	120
caccaggtca gcgtgtgacc atctcggtta gcggcagcag cagcaacatt ggcagcaact	180
atgtgagctg gtaccagcag ttgcccggaa cggcgccgaa actgctgatt tatgataaca	240
accagcgtcc ctcaggcgtg ccggatcggtt ttagcggatc caaaagcggc accagcgcga	300
gccttgcgtat tacggcctg caaagcgaag acgaagcggta ttattattgc cagagctatg	360
acatgcctca ggctgtgttt ggccggcggca cgaagttaa ccgttcttgg ccagccgaaa	420
gccgcaccga gtgtgacgct gttccgccc agcagcgaag aattgcaggc gaacaaagcg	480
accctggtgt gcctgatttag cgactttat ccgggagccg tgacagtggc ctggaggca	540
gatagcagcc ccgtcaaggc gggagtggag accaccacac cctccaaaca aagcaacaac	600
aagtacgcgg ccagcagcta tctgagcctg acgcctgagc agtggaaatgc ccacagaagc	660
tacagctgcc aggtcacgc tgaggggagc accgtggaaa aaaccgttgc gccgactgag	720
gcctgataag catgcgtagg agaaaataaa atgaaacaaa gcactattgc actggcactc	780
ttaccgttgc tcttcacccc ttttacaaa gcccaggtgc aattgaaaga aagcggcccg	840
gccctggta aaccgaccca aaccctgacc ctgaccgtta cttttccgg atttagcctg	900
tccacgtctg gcgttggcgt gggctggatt cgccagccgc ctggaaagc cctcgagtgg	960
ctggctctga ttgattggta ttttacaaa gcccaggtgc aattgaaaga aagcggcccg	1020
accattagca aagataacttc gaaaaatcag gtgggtgtga ctatgaccaa catggacccg	1080
gtggatacgg ccacctatta ttgcgcgcgt tctcctcggtt atcgtggtgc ttttgattat	1140

tggggccaag gcaccctggt gacggtagc tcagcgtcga ccaaaggccc aagcggttt	1200
ccgctggctc cgagcagcaa aagcaccaggc ggccgcacgg ctgccctggg ctgcctggtt	1260
aaagattatt tcccggAACC agtcaccgtg agctggAAca gcggggcgct gaccagcggc	1320
gtgcataacct ttccggcggt gctgcaaAGC agcggcctgt atagcctgag cagcgttgt	1380
accgtgccga gcagcagcTT aggcaCTCAG acctatATTt gcaacgtgaa ccataaACCG	1440
agcaacacca aagtggataa AAAAGTGGAA ccgaaaAGCG aattcggggg agggagcggg	1500
agcggtgatt ttgattatGA aaagatggca aacgctaATA agggggctat gaccggAAAT	1560
gccgatgAAA acgcgtaca gtctgacgct aaaggcaaac ttgattctgt cgctactgtat	1620
tacggtgctg ctatcgatgg tttcattggt gacgTTCCG gccttgctAA tggtaatggT	1680
gctactggTG atTTTgCTGG ctctaattCC caaatggCTC aagtggTGA cggTgataat	1740
tcaccttAA tgaataattt ccgtcaataat ttaccttccc tccctcaatC ggttgaatgt	1800
cGCCCTTTG tctttggcgc tggtaaacca tatgaatttt ctattgattt tgacaaaata	1860
aacttattCC gtggtgctt tgcgttctt ttatatgttG ccacctttat gtatgtattt	1920
tctacgtttG ctaacataCT gCGtaataAG gagtottGat aagcttgacc tgtgaagtGA	1980
aaaatggcgc agattgtgcg acatTTTTT tgtctgcccgt ttaatgaaat tgtaaacgtt	2040
aatatTTTGT taaaattcgc gttAAatttt tgttaatca gctcatTTT taaccaatAG	2100
gccgaaatcg gcaaaatccc ttataaatca aaagaataga ccgagatagg gttgagtgtt	2160
gttccagttt ggaacaagAG tccactatta aagaacgtgg actccaaacgt caaaggGCgA	2220
aaaaccgtct atcagggcga tggcccacta cgagaaccat caccctaATC aagtTTTTG	2280
gggtcgaggt gccgtAAAGC actaaatCGG aaccctAAAG ggagccccCG atttagagct	2340
tgaCGGGAA agccggcga CGTGGCGAGA aaggaaggGA agaaAGCGA aggAGCggc	2400
gctagggcgc tggcaagtGT agcggtcacG ctgcgcgtAA ccaccacACC cgccgcgcTT	2460
aatgcGCCGC tacagggcgc gtgctagCCA tggagcaAA aggCCAGCA aaggCCAGGA	2520
accgtaaaaa ggccgcgttG ctggcgTTT tccataggct ccgccccCT gacgagcatC	2580
acaaaaatcg acgctcaagt cagaggtggc gaaACCCGAC aggactataa agataccagg	2640
cgttcccccc tggaaagctcc ctcgtgcgcT ctcctgttcc gaccctgccc cttaccggat	2700
acctgtccgc ctttctccCT tcggGAAGCG tggcgTTTC tcataGCTCA cgctgttaggt	2760
atctcagttc ggtgttaggtc gttcgctcca agctggcgtg tggcacGAA cccccCGTTC	2820

agtccgaccg	ctgcgcctta	tccggtaact	atcgcttga	gtccaacccg	gtaagacacg	2880
acttatcgcc	actggcagca	gccactggta	acaggattag	cagagcgagg	tatgtaggcg	2940
gtgctacaga	gttcttgaag	tggtggccta	actacggcta	cactagaaga	acagtatttg	3000
gtatctgcgc	tctgctgttag	ccagttacct	tcggaaaaag	agttggtagc	tcttgatccg	3060
gcaaacaac	caccgtgg	agcggtggtt	tttttgtt	caagcagcag	attacgcgca	3120
aaaaaaaagg	atctcaagaa	gatccttga	tctttctac	ggggtctgac	gctcagtgg	3180
acgaaaactc	acgttaaggg	attttgtca	gatctagcac	caggcgTTA	agggcaccaa	3240
taactgcctt	aaaaaaatta	cgcggcgc	tgccactcat	cgcagtactg	ttgtaattca	3300
ttaagcattc	tgccgacatg	gaagccatca	caaacggcat	gatgaacctg	aatcgccagc	3360
ggcatcagca	ccttgcgc	ttgcgtataa	tatttgc	tagtggaaac	ggggcgaag	3420
aagttgtcca	tattggctac	gtttaatca	aaactggta	aactcaccc	gggattggct	3480
gagacgaaaa	acatattctc	aataaaccct	ttagggaaat	aggccaggtt	ttcaccgtaa	3540
cacgccacat	cttgcgata	tatgtgtaga	aactgccgga	aatcgctcg	gtattcactc	3600
cagagcgatg	aaaacgtt	ctc agttgctca	tggaaaacgg	tgtaacaagg	gtgaacacta	3660
tcccatatca	ccagctcacc	gtcttcatt	gccatacgga	actccgggt	agcattcatc	3720
aggcgggcaa	gaatgtgaat	aaaggccgga	taaaacttgt	gcttatttt	cttacggtc	3780
tttaaaaagg	ccgtaatatac	cagctgaacg	gtctggttat	aggtacattg	agcaactgac	3840
tgaaatgcct	caaaatgttc	tttacgatgc	cattgggata	tatcaacgg	ggtatatcca	3900
gtgatttttt	tctccatttt	agtttcctta	gctcctgaaa	atctcgataa	ctaaaaaaat	3960
acgcccggta	gtgatcttat	ttcattatgg	tgaaagttgg	aacctcaccc	gacgtcta	4020
gtgagttagc	tcactcatta	ggcacccag	gcttacact	ttatgcttcc	ggctcgtatg	4080
ttgtgtggaa	ttgtgagcg	ataacaattt	cacacaggaa	acagctatga	ccatgattac	4140
gaatt						4145

<210> 37
 <211> 120
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC1-VH
 <222> (1)..(120)

<400> 37

Gln Val Gln Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30
 Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60
 Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Gln Tyr Gly His Arg Gly Gly Phe Asp His Trp Gly Gln
 100 105 110
 Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 38
 <211> 109
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC1-VL
 <222> (1)..(109)

<400> 38

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
 1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
 65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Phe Asn Glu
 85 90 95

Ser Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 39
<211> 118
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC6-VH
<222> (1)..(118)

<400> 39

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Tyr Gly Arg Tyr Ser Pro Asp Leu Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 40
<211> 110
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC6-VL
<222> (1)..(110)

<400> 40

Asp Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Val Pro Ala Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Asn Leu Pro
85 90 95

Phe Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr
100 105 110

<210> 41

<211> 120

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-VH, MS-GPC8-1-VH, MS-GPC8-6-VH, MS-GPC8-9-VH, MS-GPC8-10-VH, MS-GPC8-17-VH, MS-GPC8-18-VH, MS-GPC8-27-VH, MS-GPC8-6-2-VH, MS-GPC8-6-13-VH, MS-GPC8-6-27-VH, MS-GPC8-6-45-VH, MS-GPC8-6-47-VH, MS-GPC8-10-57-VH, MS-GPC8-27-7-VH, MS-GPC8-27-10-VH, MS-GPC8-27-41-VH

<222> (1)..(120)

<400> 41

Gln Val Gln Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ser Pro Arg Tyr Arg Gly Ala Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 42

<211> 109

<212> PRT

<213> artificial sequence

<220>
<221> MS-GPC8-VL
<222> (1)..(109)

<400> 42

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Met Pro Gln
85 90 95

Ala Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 43
<211> 120
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC10-VH
<222> (1)..(120)

<400> 43

Gln Val Gln Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Gln Leu His Tyr Arg Gly Gly Phe Asp Leu Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 44
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC10-VL
<222> (1)..(109)

<400> 44

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr Met
85 90 95

Gly Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 45
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-2-VL
<222> (1)..(109)

<400> 45

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val His Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95

Tyr Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 46

<211> 109

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-6-VL

<222> (1)..(109)

<400> 46

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95

Tyr Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 47

<211> 109

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-6-19-VL

<222> (1)..(109)

<400> 47
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ala Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95

Tyr Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 48

<211> 109

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-10-VL

<222> (1)..(109)

<400> 48

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile Arg
85 90 95

His Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 49

<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-27-VL
<222> (1)..(109)

<400> 49

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Asp Ser Asn Ile Gly Ala Asn
20 25 30

Tyr Val Thr Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95

Tyr Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 50
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-17-VL
<222> (1)..(109)

<400> 50

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Phe Ser Val
85 90 95

Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 51
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-45-VL
<222> (1)..(109)

<400> 51
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Pro Asn Ile Gly Ser Asn
20 25 30

Tyr Val Phe Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95

Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 52
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-27-VL
<222> (1)..(109)

<400> 52
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile	Tyr	Asp	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	
50					55					60					
Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu
65					70					75					
Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Met	Asn
80					85					90				95	
Val	His	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly		
					100				105				109		

<210> 53
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-47-VL
<222> (1)..(109)

<400>	53														
Asp	Ile	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln
1					5				10				15		

Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Glu	Ser	Asn	Ile	Gly	Ser	Asn
					20				25				30		

Tyr	Val	Ser	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu
					35				40				45		

Ile	Tyr	Asp	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser
50					55					60					

Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln
65					70					75				80	

Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Tyr	Asp	His
					85				90				95		

Tyr	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly			
					100				105						

<210> 54
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-13-VL
<222> (1)..(109)

<400>	54														
Asp	Ile	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln

1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ala Asn
20 25 30

Tyr Val Thr Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95

Tyr Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 55

<211> 109

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-27-7-VL

<222> (1)..(108)

<400> 55

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn
20 25 30

Tyr Val Gly Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Met Asn Val
85 90 95

His Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 56

<211> 109

<212> PRT

<213> artificial sequence

<220>
<221> MS-GPC8-10-57-VL
<222> (1)..(109)

<400> 56
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn
20 25 30

Tyr Val Gln Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile Arg
85 90 95

His Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 57
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-27-10-VL
<222> (1)..(108)

<400> 57
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ala Asn
20 25 30

Tyr Val Asn Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Met Asn Val
85 90 95

His Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly

100

105

<210> 58
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-27-41-VL
<222> (1)..(108)

<400> 58
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn
20 25 30

Tyr Val Gln Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Met Asn Val
85 90 95

His Val Phe Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 59
<211> 8
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC1-VL-CDR3
<222> (1)..(8)

<400> 59

Gln Ser Tyr Asp Phe Asn Glu Ser
1 5

<210> 60
<211> 8
<212> PRT
<213> artificial sequence

<220>

<221> MS-GPC8-6-VL-CDR3,MS-GPC8-6-2-VL-CDR3,MS-GPC8-6-13-VL-CDR3, MS-GPC8-6-19-
VL-CDR3,MS-GPC8-6-27-VL-CDR3,MS-GPC8-6-45-VL-CDR3,MS-GPC8-6-47-VL-CDR3
<222> (1)..(8)

<400> 60

Gln Ser Tyr Asp Tyr Asp His Tyr
1 5

<210> 61
<211> 10
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC10-VH-CDR3
<222> (1)..(10)

<400> 61

Gln Leu His Tyr Arg Gly Gly Phe Asp Leu
1 5 10

<210> 62
<211> 12
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC6-VL-CDR1
<222> (1)..(12)

<400> 62

Arg Ala Ser Gln Ser Val Ser Ser Ser Tyr Leu Ala
1 5 10